CONTENTS

VOLUME 99 · NUMBER 1 · JANUARY 1992

1 GING KUO WANG and SHO-YA WANG. Inactivation of batrachotoxin-modified Na^+ channels in GH_3 cells. Characterization and pharmacological modification

21 CHRISTOPHER D. HARDIN, LUC RAEYMAEKERS, and RICHARD J. PAUL. Comparison of endogenous and exogenous sources of ATP in fueling Ca^{2+} uptake in smooth muscle plasma membrane vesicles

41 MARILYN R. JAMES-KRACKE. Calmodulin activation of the Ca^{2+} pump revealed by fluorescent chelator dyes in human red blood cell ghosts

63 STEPHAN GRISSMER, RICHARD S. LEWIS, and MICHAEL D. CAHALAN. Ca^{2+}-activated K^+ channels in human leukemic T cells

85 JANE M. SULLIVAN and ERIC M. LASATER. Sustained and transient calcium currents in horizontal cells of the white bass retina

109 SHERRILL SPIRES and TED BEGENISICH. Modification of potassium channel kinetics by amino group reagents

131 INFORMATION FOR AUTHORS

VOLUME 99 · NUMBER 2 · FEBRUARY 1992

137 DAVID H. MCCULLOH and EDWARD L. CHAMBERS. Fusion of membranes during fertilization. Increases of the sea urchin egg's membrane capacitance and membrane conductance at the site of contact with the sperm

177 ROBERT A. LINSENMEIER and ROD D. BRAUN. Oxygen distribution and consumption in the cat retina during normoxia and hypoxemia

199 DEEPAK M. KAJI. Hemisodium, a novel selective Na ionophore. Effect on normal human erythrocytes

217 D. CHOQUET and H. KORN. Mechanism of 4-aminopyridine action on voltage-gated potassium channels in lymphocytes

241 GUILLERMO A. ALTENBERG, JAMES S. STODDARD, and LUIS REUSS. Electrophysiological effects of basolateral $[Na^+]$ in *Necturus* gallbladder epithelium

263 DANIEL P. JOSEPH and SHELDON S. MILLER. Alpha-1-adrenergic modulation of K and Cl transport in bovine retinal pigment epithelium

VOLUME 99 · NUMBER 3 · MARCH 1992

297 LUIS REUSS, BRUCE SIMON, and ZHIJIAN XI. Pseudo-streaming potentials in *Necturus* gallbladder epithelium. I. Paracellular origin of the transepithelial voltage changes

317 LUIS REUSS, BRUCE SIMON, and CALVIN U. COTTON. Pseudo-streaming potentials in *Necturus* gallbladder epithelium. II. The mechanism is a junctional diffusion potential

339 DAN R. HALM and RAYMOND A. FRIZZELL. Anion permeation in an apical membrane chloride channel of a secretory epithelial cell

367 THEODORE N. MARKS and STEPHEN W. JONES. Calcium currents in the A7r5 smooth muscle–derived cell line. An allosteric model for calcium channel activation and dihydropyridine agonist action

391 ANDREW C. ZYGMUNT and W. R. GIBBONS. Properties of the calcium-activated chloride current in heart

415 VINCENT E. DIONNE. Chemosensory responses in isolated olfactory receptor neurons from *Necturus maculosus*

435 DEEPAK KIKERI, ADAM SUN, MARK L. ZEIDEL, and STEVEN C. HEBERT. Cellular NH_4^+/K^+ transport pathways in mouse medullary thick limb of Henle. Regulation by intracellular pH

VOLUME 99 · NUMBER 4 · APRIL 1992

465 TZYH-CHANG HWANG, MINORU HORIE, ANGUS C. NAIRN, and DAVID C. GADSBY. Role of GTP-binding proteins in the regulation of mammalian cardiac chloride conductance

491 T. D. PARSONS, A. L. OBAID, and B. M. SALZBERG. Aminoglycoside antibiotics block voltage-dependent calcium channels in intact vertebrate nerve terminals

505 TAKENORI MIYAMOTO, DIEGO RESTREPO, and JOHN H. TEETER. Voltage-dependent and odorant-regulated currents in isolated olfactory receptor neurons of the channel catfish

531 CHRISTOPHER L.-H. HUANG. Intramembrane charge movements in frog skeletal muscle in strongly hypertonic solutions

545 BRUCE N. COHEN, CESAR LABARCA, LINDA CZYZYK, NORMAN DAVIDSON, and HENRY A. LESTER. $Tris^+/Na^+$ permeability ratios of nicotinic acetylcholine receptors are reduced by mutations near the intracellular end of the M2 region

573 MIRIAM ECHEVARRIA and A. S. VERKMAN. Optical measurement of osmotic water transport in cultured cells. Role of glucose transporters

591 THOMAS A. CUMMINGS and SUE C. KINNAMON. Apical K^+ channels in *Necturus* taste cells. Modulation by intracellular factors and taste stimuli

615 MICHAEL R. BLATT. K^+ channels of stomatal guard cells. Characteristics of the inward rectifier and its control by pH

645 JULIO A. HERNÁNDEZ and JORGE FISCHBARG. Kinetic analysis of water transport through a single-file pore

VOLUME 99 · NUMBER 5 · MAY 1992

665 TOSHIAKI NAKAJIMA, TSUNEAKI SUGIMOTO, and YOSHIHISA KURACHI. Effects of anions on the G protein–mediated activation of the muscarinic K^+ channel in the cardiac atrial cell membrane. Intracellular chloride inhibition of the GTPase activity of G_K

683 XIAN-GANG ZONG, MARTIN DUGAS, and PETER HONERJÄGER. Relation between veratridine reaction dynamics and macroscopic Na current in single cardiac cells

699 PETER HONERJÄGER, MARTIN DUGAS, and XIAN-GANG ZONG. Mutually exclusive action of cationic veratridine and cevadine at an intracellular site of the cardiac sodium channel

721 HEIMO MAIRBÄURL and JOSEPH F. HOFFMAN. Internal magnesium, 2,3-diphosphoglycerate, and the regulation of the steady-state volume of human red blood cells by the Na/K/2Cl cotransport system

747 ENRICO NASI and MARIA DEL PILAR GOMEZ. Light-activated ion channels in solitary photoreceptors of the scallop *Pecten irradians*

771 SHERWIN C. LEE, DANIEL I. LEVY, and CAROL DEUTSCH. Diverse K^+ channels in primary human T lymphocytes

795 DONALD A. MARTYN and ALBERT M. GORDON. Force and stiffness in glycerinated rabbit psoas fibers. Effects of calcium and elevated phosphate

817 WALTER F. BORON and ROGER C. KNAKAL. Na^+-dependent Cl-HCO_3 exchange in the squid axon. Dependence on extracellular pH

VOLUME 99 · NUMBER 6 · JUNE 1992

841 F. MARKWARDT and G. ISENBERG. Gating of maxi K^+ channels studied by Ca^{2+} concentration jumps in excised inside-out multi-channel patches (myocytes from guinea pig urinary bladder

863 ROMAN SHIROKOV, RICHARD LEVIS, NATALIA SHIROKOVA, and EDUARDO RÍOS. Two classes of gating current from L-type Ca channels in guinea pig ventricular myocytes

897 Cecilia Castillo, Raimundo Villegas, and Esperanza Recio-Pinto. Alkaloid-modified sodium channels from lobster walking leg nerves in planar lipid bilayers

931 Ron A. Bouchard and Deepak Bose. Contribution of sarcolemmal sodium–calcium exchange and intracellular calcium release to force development in isolated canine ventricular muscle

961 Hiroyuki Ito, Robert T. Tung, Tsuneaki Sugimoto, Ichiro Kobayashi, Katsunobu Takahashi, Toshiaki Katada, Michio Ui, and Yoshihisa Kurachi. On the mechanism of G protein βγ subunit activation of the muscarinic K^+ channel in guinea pig atrial cell membrane. Comparison with the ATP-sensitive K^+ channel

985 Chiu Shuen Hui and Wei Chen. Separation of Q_β and Q_γ charge components in frog cut twitch fibers with tetracaine. Critical comparison with other methods

1017 Chiu Shuen Hui and Wei Chen. Effects of conditioning depolarization and repetitive stimulation on Q_β and Q_γ charge components in frog cut twitch fibers

1045 Author Index to Volume 99